

We claim:

1. An implantable, hermetically sealed housing for components of an implantable medical device, wherein said housing comprises an hermetically tight separation wall which divides the housing into a first chamber for housing a storage for electrical energy for supplying electric current to the medical device and a second chamber for housing said electronic unit.

2. The device as claimed in claim 1 wherein the separation wall comprises hermetically tight electrical feed-throughs.

3. The device as claimed in claim 1 wherein the separation wall extends substantially in the direction of the largest dimension of the housing.

4. The device as claimed in claim 3 wherein said housing has an oblong shape such that the length of the housing is larger than the height of the housing.

5. The device as claimed in claim 4 wherein said housing has a cylindrical shape the diameter of which is larger than the height of the housing.

6. The device as claimed in claim 1 wherein an outer wall and said separation wall are formed in one piece, and said first and second chambers are sealed by a cap which is attached to said outer wall.

7. The device as claimed in claim 1 wherein the energy storage is disposed directly within the first chamber without the provision of a separate energy storage housing.

8. The device as claimed in claim 7 wherein the energy storage is an electrochemical battery with a solid electrolyte system.

9. The device as claimed in claim 8 wherein the energy storage is a lithium based battery.

10. The device as claimed in claim 1 wherein the electronic unit comprises a unit for monitoring the energy storage.

11. The device as claimed in claim 1 wherein the electronic unit comprises a unit for controlling the medical device.

12. The device as claimed in claim 11 wherein the electronic unit further is adapted for control of the energy storage.

13. The device as claimed in claim 1 wherein the energy storage is a primary battery.

14. The device as claimed in claim 1 wherein the energy storage is a secondary battery.

15. The device as claimed in claim 14 wherein the electronic unit is adapted to monitor and control the charging of the energy storage such that an operational state of the energy storage is maintained within a predetermined range in which damage of the energy storage and escape of gas are substantially prevented.

16. The device as claimed in claim 15 wherein the electronic unit is adapted to interrupt the charging process when said operational state of the energy storage is impending to leave the predetermined range.

17. The device as claimed in claim 14 comprising a receiving coil to which energy may be electromagnetically fed transcutaneously from an external charging device to recharge the energy storage.

18. The device as claimed in claim 17 wherein the receiving coil is disposed in a biocompatible polymer enclosure at the outer side of said hermetically sealed housing and is in mechanical connection with said housing.

19. The device as claimed in claim 18 wherein said receiving coil is disposed at a narrower face of said hermetically sealed housing so as to project therefrom.

20. The device as claimed in claim 1 wherein said electronic unit comprises a coil for exchanging data with an external telemetry unit for controlling the medical device.

21. The device as claimed in claim 1 wherein said hermetically sealed housing is provided at the outer side thereof with feed-through contacts for a sensoric component and an actoric component.

22. The device as claimed in claim 1 wherein the medical device is a hearing aid.

23. A process for producing an implantable, hermetically sealed housing for components of an implantable medical device, wherein said housing comprises an hermetically tight separation wall which divides said housing into a first chamber for housing a storage for electrical energy for supplying electric current to the medical device and a second chamber for housing said electronic unit, the process comprising:

machining two chamber-like depressions from two opposing sides into a blank, wherein the remaining material between said two depressions constitutes said hermetically tight separation wall; and

forming a first and a second chamber by placing an hermetically tight cap onto each of the two depressions.

24. A process for producing an implantable, hermetically sealed housing for components of an implantable medical device, wherein said housing comprises an hermetically tight separation wall which divides the housing into a first chamber for housing a storage for electrical energy for supplying electric current to the medical device and a second chamber for housing said electronic unit, the process comprising:

forming, in the course of a first deep-draw step, a first open hollow space in a flat blank;

forming, in the course of a second deep-draw step which is conducted from a side of the blank that is opposite to that from which the first deep-draw step has been conducted, a second open hollow space in a bottom of the first open hollow space; and

forming a first and a second chamber by placing an hermetically tight cap onto the openings of each of the two hollow spaces.

25. A process for producing an implantable, hermetically sealed housing for components of an implantable medical device, wherein said housing comprises an hermetically tight separation wall which divides the housing into a first chamber for housing a storage for electrical energy for supplying electric current to the medical device and a second chamber for housing said electronic unit, the process comprising:

forming, in the course of a deep-draw step, a first open hollow space in a flat blank, said first open hollow space having a bottom; and

placing a hollow body which is open on one side with its open side onto said bottom, and connecting the hollow body with the bottom in an hermetically tight manner, thus forming a first and a second chamber.

26. The process as claimed in claim 25 wherein the hollow body is a tube section.

27. A process for producing an implantable, hermetically sealed housing which houses components of an implantable medical device, wherein said housing comprises an hermetically tight separation wall which divides the housing into a first chamber for housing a storage for electrical energy for supplying electric current to the medical device and a second chamber for housing said electronic unit, the process comprising:

forming, in the course of a deep-draw step, a first open hollow space in a flat blank, said first open hollow space having a bottom;

placing a hollow body which is open at both ends one of its open ends onto said bottom, and connecting the hollow body with the bottom in a hermetically tight manner, thus forming a first chamber; and

placing an hermetically tight cap onto the second open end of the hollow body thus forming a second chamber.

28. The process as claimed in claim 27 wherein the hollow body is a tube section.